Reviewer's report

Title: Determinants of suboptimal hepatitis B vaccine uptake among men in the Republic of Korea: Where should our efforts be focused? : Results from cross-sectional study

Version: 2 Date: 14 December 2012

Reviewer: Elke Leuridan

Reviewer’s report:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

- Interesting data, the English should be checked by a native speaker
- Methodology: it is unclear why women are not included and why the incidence of HBV infection is higher in men. Horizontal transmission is not a plausible explanation. In high endemicity countries, vertical transmission is known to be the major source of infection, not horizontal transmission.
- Methodology: Table 4: how was the question posed? It seems that people could only choose 1 of the options. If you correlate duration of education with knowledge, you should find the same trend between duration of education and the other reasons for not vaccinating, which is not true! Besides, there is no p value indicated in table 2 for occupation. Did you look for influences between the different variables, e.g. duration of education and occupation? The same trend should be found for occupation if your hypothesis holds true.
- Methodology: Why did you exclude hepatitis B carriers or people who had the disease? They can have been vaccinated too. What risk factors did they have for not being vaccinated?
- Discussion: if you hypothesize that horizontal transmission is the main reason for the high incidence of HBV infection in Korean men, then targeting risk groups would be more effective (blood transfusion recipients, homosexuals, ivdu …) If this hypothesis is right, then why would women be less infected?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Title: please delete the question mark.

Abstract

- 1st sentence: is 19.4% the % of liver cancer of HBV? This is not clear.
- It is unclear from the abstract whether the Korean men are supposed to be vaccinated or not.
- First paragraph: ‘factors associated with the lack of HBV vaccine uptake’ instead of ‘associated with HBV vaccine uptake’.
- Results paragraph: what do you mean with a p-trend? Is this a p value? please show for all factors the same statistics, why do you show a p value and an odds ratio?
- ‘low complete vaccination rate’ do you mean low ‘rate of full vaccination’?

Background
- Please add years from the references 3 and 4. Do you have more recent data? How many of the liver cancer cases in 2008 in Korea were due to chronic HBV infection?
- The sentence referring to reference 5: please add the time interval in this study. Are there any more recent data from Korea?
- Next line: prevents liver cancer effectively, please delete ‘effectively’
- Last sentence of page 3: prevalence of HBV in which age cohort?
- Page 4: this recommendation/interpretation fits better in the discussion, not in the background.
- Catch up programme: which age cohort was targeted? Children programme: please add the age and schedule you use in children.
- What is the prevalence in your country of HBV? What is the rate of vertical transmission in your country?

Methods
- How do you explain the difference with women in Korea? It would be nice to compare with vaccination data in women.
- KNCSS: why are men included from 40 years on and women from 30 years on?

Results
- What do you mean with p-trend? Is this a p-value?
- Income categories: please describe in your methods section how you decided on the cutoff of your income categories.
- Third paragraph page 7: shorter duration of education was associated with both complete and incomplete vaccination: this is in contradiction to the previous sentence: I guess it should be: education was associated with…
- Next sentence on lower monthly income: ‘lower complete’, do you mean incomplete? But further you say, not associated with incomplete. What do you mean with ‘lower complete’?
- Page 7: last sentence: change ‘although’ into ‘hence’.
- Probably it is a language issue but it is weird to repeat every time ‘compared to unvaccinated men’. Besides, it is always compared to vaccinated men.
- P8: what do you mean with ‘put it off’? table 4

Discussion
- First paragraph: please re write, this sentence is unclear
- Second paragraph page 9: if you cite an article, make sure to not change the
message. Reference 12 says: seroprotective rates are CLOSELY TO 100% (100% is not possible) and APPROXIMATELY 95%.

- P 11: is the cost effectiveness of the national cancer screening program in Korea proven?

- P10-11: the role of educational level in deciding on HBV vaccination can be discussed in a shorter way, authors do repeat the results and existing evidence several times.

- The study would be much more interesting if also women would be included. Horizontal transmission as the reason for higher incidence of HBV in men, is not plausible, since horizontal transmission is known to happen between young children. Sexual transmission implies women.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

no conflict of interest